1893MNRAS..53..374.

Observations of the recent Conjunction of Saturn and γ Virginis made at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

The following observations of differences of R.A and N.P.D. were made with the 12$\frac{3}{4}$-inch Merz Refractor mounted on the Lassell Equatorial, the power used being 285. The differences of R.A. were recorded on one of the portable chronographs, and the differences of N.P.D. were measured with a filar micrometer:—

TABLE I.

G.M.T. of Observation.	γ^1 Virg.-Sat. Corrected for Refraction and Parallax.	γ^2 Virg.-Sat. Corrected for Refraction and Parallax.	Diameter of Saturn.	Deduced R.A. of Sat. Reduced to Time of Meridian Passage.	Observer.
d h m s	m s	m s	s	h m s	
Apr. 10 9 46 46	0 38·78	...	1·26	12 35 35·82	L.
49 29	38·84	...	·24	·80	L.
54 54	38·88	...	·21	·82	L.
56 1	...	0 39·03	·25	·87	L.
57 17	...	39·16	·23	·76	L.
58 38	...	39·08	·27	·86	L.
10 0 36	39·06	...	·23	·70	L.
1 55	38·95	...	·24	·83	L.
3 12	39·00	...	·25	·79	L.
6 45	39·01	...	·38	·82	H. T.
8 22	...	39·29	·29	·75	H. T.
9 43	...	39·21	·25	·84	H. T.
10 56	39·08	...	·26	·80	H. T.
12 29	...	39·28	·33	·80	H. T.
15 14	39·10	...	·31	·82	H. T.
32 32	39·16	...	·33	·96	L.
34 17	...	39·57	·25	·77	L.
35 27	39·27	...	·23	·89	L.
36 32	...	39·53	·23	·83	L.
37 43	39·37	...	·33	·81	L.
48 23	39·44	...	·21	·87	L.
49 30	...	39·72	·29	·79	L.
50 46	39·49	...	·26	·84	L.
51 53	...	39 62	·26	·92	L.

1893MNRAS..53..374.

G.M.T. of Observation.				γ^1 Virg.-Sat. Corrected for Refraction and Parallax.	γ^2 Virg.-Sat. Corrected for Refraction and Parallax.	Diameter of Saturn.	Deduced R.A. of Sat. Reduced to Time of Meridian Passage.	Observer.
d	h	m	s	m s	m s	s	h m s	
Apr. 10	10	53	35	39·52	...	·23	12 35 35·85	L.
		54	39	...	39·70	·29	·87	L.
12	9	12	3	1 11·33	...	·21	2·97	L.
		13	54	...	1 11·63	·22	·88	L.
		15	40	11·41	...	·28	·93	L.
		17	26	...	11·60	·23	·95	L.
		19	17	11·39	...	·28	·99	L.
		21	9	...	11·69	·29	·90	L.
		49	2	11·75	...	·24	·97	L.
		50	43	...	11·97	·26	·96	L.
		52	31	11·68	...	·29	3·08	L.
		54	13	...	12·05	·23	2·92	L.
	10	17	57	12·16	...	·21	·90	L.
		19	46	...	12·32	·26	·95	L.
		21	34	12·23	...	·28	·87	L.
		23	9	...	12·37	·24	·94	L.
		41	58	12·39	...	·23	·94	L.
		43	43	...	12·64	·26	·90	L.
		45	25	...	12·61	·27	·95	L.
		47	11	12·47	...	·28	·92	L.
		49	14	12·48	...	·26	·93	L.
		50	58	...	12·68	1·29	2·95	L.

The initials H. T. and L. are those of Mr. Turner and Mr. Lewis respectively.

	R.A.	N.P.D.
	h m s	° ′ ″
Assumed apparent place of γ^1	12 36 15·65	90 51 53·6
„ „ γ^2	15·84	58·7

The apparent place is sensibly the same on both days.

The authority for these is the Greenwich Five-Year Catalogue of Fundamental Stars 1890·0.

	R.A.	N.P.D.
	d h m s	° ′ ″
N.A. Tabular place of *Saturn* at Meridian passage	10 12 35 36·04	90 53 54·0
„ „ „ „	12 12 35 3·15	90 50 28·9

1893MNRAS..53..374.

Table I. (Part 2).

Differences of N.P.D. of Saturn and γ^1 and γ^2 Virginis.

G.M.T. of Observation.					γ^1 Virg.-Sat. Corrected for Refraction and Parallax.		γ^2 Virg.-Sat. Corrected for Refraction and Parallax.		Diameter of Saturn.	Difference of γ^1-γ^2 Virg.	Seconds of Deduced N.P.D. of Saturn reduced to time of Meridian Passage.		Observer.
											from γ^1	from γ^2	
	d	h	m	s	′	″	′	″	″	″	″	″	
Apr.	10	10	21	33	−2	2·24	−1	56·97	18·25	5·27	51·8	51·6	L.
			23	35		2·93		57·90	18·14	5·03	52·6	52·6	L.
			24	30		2·18		57·26	18·25	4·92	51·9	52·1	L.
			25	30		2·46		57·04	18·30	5·42	52·2	51·9	L.
			27	7		2·28		57·04	18·58	5·24	52·2	52·0	L.
			40	28		1·78		57·27	17·88	4·51	52·7	53·2	L.
			41	48		0·76		55·95	18·54	4·81	51·7	52·0	L.
			42	56		2·14		56·90	18·64	5·22	53·2	53·1	L.
			44	9		1·13		56·13	18·54	5·00	52·3	52·3	L.
			46	3		1·63		56·91	18·23	4·72	52·9	53·3	L.
	12	9	35	23	+1	19·89	+1	24·56	18·33	4·67	27·0	27·5	L.
			37	15		20·06		25·14	19·66	5·08	27·0	27·0	L.
			39	26		20·04		24·40	18·98	4·36	27·2	27·9	L.
			42	23		20·01		25·08	18·91	5·07	27·4	27·4	L.
			44	25		19·92		24·58	18·82	4·66	27·6	28·1	L.
			59	37		21·26		26·32	18·44	5·06	27·4	27·4	L.
		10	1	41		21·95		27·21	17·60	5·26	26·8	26·7	L
			10	2		22·46		27·39	18·25	4·93	26·9	27·1	L.
			12	0		22·62		27·63	18·52	5·01	26·9	27·0	L.
			13	56		22·46		27·02	17·56	4·56	27·2	27·7	L.
			32	1		22·91		27·93	17·32	5·02	28·0	28·1	L.
			33	42		23·98		28·89	17·60	4·91	27·1	27·3	L.
			35	32		23·86		28·70	18·10	4·84	27·3	27·6	L.
			37	12		24·80		29·52	17·55	4·72	26·5	26·9	L.
			39	0		24·54		30·06	18·33	5·52	26·9	26·4	L.

Collecting the results, we obtain—

Correction to Tabular R.A. of Saturn, as given in the "Nautical Almanac."

Date.		Observer.	From γ^1.		From γ^2.	
			s	s	s	s
Apr.	10	L.	−0·208	± ·008	−0·206	± ·010
		H. T.	−0·227	± ·020	−0·243	± ·020
	12	L.	−0·200	± ·009	−0·220	± ·009

Correction to Tabular N.P.D. of Saturn.

Date.		Observer.	From γ^1.		From γ^2.	
			″	″	″	″
Apr.	10	L.	−1·65	± 0·11	−1·59	± 0·11
	12	L.	−1·75	± 0·10	−1·56	± 0·10

1893MNRAS..53..374.

Preparations were also made for observations on April 8 and 9, but no measures could be obtained, as during the earlier part of the night *Saturn* was behind the new building (on which the Lassell Equatorial is shortly to be mounted), and the sky clouded over afterwards on each night.

Saturn and γ *Virginis* were also observed with the transit circle on April 10 and 12, and the following are the resulting differences of R.A. and N.P.D.:—

TABLE II.

G.M.T.				Observer.	γ^1−Sat. R.A.		γ^2−Sat. R.A.		γ^1−Sat. N.P.D.		γ^2−Sat. N.P.D.		Diameter. R.A.	Diameter. N.P.D.
	d	h	m		m	s	m	s	′	″	′	″	s	″
Apr.	10	11	18·0	R. C.	0	39·75	...		−2	0·55	...		1·16	19·71
	12	11	9·6	H.	1	12·66	1	12·97	1	25·83	1	31·47	1·30	18·66

The N.P.D. differences are corrected for refraction and parallax.

The initials R. C. and H. are those of Mr. Cheeseman and Mr. Hollis.

Photographs of *Saturn* and γ *Virginis* were taken with the Astrographic Equatorial on April 7, 10, 12, and 13 with a series of exposures and trails for orientation.

Royal Observatory, Greenwich:
1893 *April* 14.

Revised Places of Comets observed at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

Since the comet observations in the *Monthly Notices*, vol. liii. Nos. 1 to 5, were communicated to the Society, more accurate places have been found for many of the comparison stars, chiefly in the Lund and Leiden zones. These places are given below, together with the resulting positions of the comets.

Holmes' Comet (*f* 1892).

Greenwich Mean Solar Time.					R.A. of ☄.			N.P.D. of ☄.			Comp. ✱	References to *Monthly Notices* of R.A.S.
1892.	d	h	m	s	h	m	s	°	′	″		
Nov.	9	9	36	26	0	45	51·90	51	41	19·4	*k*	Vol. liii., No. 1, p. 52
	9	11	22	53	0	45	52·51	51	41	33·1	*g*	,, ,, ,,
	10	6	17	48	0	45	23·61	51	46	12·6	*k*	,, ,, ,,
	10	6	17	48	0	45	26·10	51	45	51·7	*e*	,, ,, ,,
	10	6	25	3	0	45	27·30	51	45	48·6	*e*	,, ,, ,,
	12	8	27	17	0	44	28·31	51	59	11·2	*e*	,, No. 2, p. 67
	12	8	29	49	0	44	30·30	51	58	32·0	*i*	,, ,, ,,